



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,689	08/17/2006	Koji Kikushima	6700-89058	9907
22342 7590 06/26/2009 FITCH EVEN TABIN & FLANNERY 120 SOUTH LASALLE STREET SUITE 1600 CHICAGO, IL 60603-3406				
EXAMINER SINGH, DALZID E				
ART UNIT		PAPER NUMBER		
2613				
MAIL DATE		DELIVERY MODE		
06/26/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Supplemental
Notice of Allowability**

Application No.

10/589,689

Examiner

Dalzd Singh

Applicant(s)

KIKUSHIMA ET AL.

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 17 August 2006.
2. ☒ The allowed claim(s) is/are 1-34 which have been renumbered as 1-34 respectively.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Dalzd Singh/
Primary Examiner
Art Unit 2613

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In claim 11, lines 2-3, "the optical signal transmitting apparatus as set forth in any one of claims 1 to 6" has been changed to --an optical signal transmitting apparatus--

In claim 17, lines 4-5, "the optical signal receiving apparatus as set forth in any one of claims 7 to 10" has been changed to --an optical signal receiving apparatus--

In claim 28, lines 2-3, "the optical signal transmitting method as set forth in any one of claims 18 to 23" has been changed to --transmitting an optical signal--

In claim 34, lines 4-5, "the optical signal receiving method as set forth in any one of claims 24 to 27" has been changed to --receiving an optical signal--

Allowable Subject Matter

2. Claims 1-34 allowed.
3. The following is an examiner's statement of reasons for allowance:

Claim 1 is allowed because the prior arts of record do not teach or disclose an optical signal transmitting apparatus for transmitting a FM batch converted signal with a frequency-multiplexed first signal being frequency-modulated in batch and a second signal as an optical signal, the apparatus is configured to transmit the optical signal including the FM batch converted signal and the second signal wherein:

the center frequency of the FM batch converted signal is set to be less than or equal to a value obtained by subtracting the half of the occupied frequency bandwidth of the FM batch converted signal and the half of the occupied frequency bandwidth of the second signal from the center frequency of the second signal.

Claim 7 is allowed because the prior arts of record do not teach or disclose an optical signal receiving apparatus for receiving an optical signal including a FM batch converted signal with a frequency-multiplexed first signal being frequency-modulated in batch and a second signal, the apparatus is configured to receive the optical signal to demodulate the FM batch converted signal and the second signal, wherein:

the center frequency of the FM batch converted signal is set to be less than or equal to a value obtained by subtracting the half of the occupied frequency bandwidth of the FM batch converted signal and the half of the occupied frequency bandwidth of the second signal from the center frequency of the second signal.

Claim 12 is allowed because the prior arts of record do not teach or disclose an optical signal relaying apparatus for transferring an optical signal including a FM batch converted signal with a frequency-multiplexed first signal being frequency-modulated in batch and a second signal, the apparatus is configured to receive the optical signal including one of the FM batch converted signal and the second signal and to add it with the other signal to transmit, wherein:

the center frequency of the FM batch converted signal is set to be less than or equal to a value obtained by subtracting the half of the occupied frequency bandwidth of the FM batch converted signal and the half of the occupied frequency bandwidth of the second signal from the center frequency of the second signal.

Claim 18 is allowed because the prior arts of record do not teach or disclose an optical signal transmitting method for transmitting a FM batch converted signal with a frequency-multiplexed first signal being converted and frequency-modulated and a second signal as an optical signal, the method includes transmitting the optical signal including the FM batch converted signal and the second signal wherein:

the center frequency of the FM batch converted signal is set to be less than or equal to a value obtained by subtracting the half of the occupied frequency bandwidth of the FM batch converted signal and the half of the occupied frequency bandwidth of the second signal from the center frequency of the second signal.

Claim 24 is allowed because the prior arts of record do not teach or disclose an optical signal receiving method for receiving an optical signal including a FM batch

converted signal with a frequency-multiplexed first signal being frequency-modulated in batch and a second signal, the method includes receiving the optical signal to demodulate the FM batch converted signal and the second signal, wherein:

the center frequency of the FM batch converted signal is set to be less than or equal to a value obtained by subtracting the half of the occupied frequency bandwidth of the FM batch converted signal and the half of the occupied frequency bandwidth of the second signal from the center frequency of the second signal.

Claim 29 is allowed because the prior arts of record do not teach or disclose an optical signal relaying method for transferring an optical signal including a FM batch converted signal with a frequency-multiplexed first signal being frequency-modulated in batch and a second signal, the method includes receiving the optical signal including one of the FM batch converted signal and the second signal and adding it with the other signal to transmit, wherein:

the center frequency of the FM batch converted signal is set to be less than or equal to a value obtained by subtracting the half of the occupied frequency bandwidth of the FM batch converted signal and the half of the occupied frequency bandwidth of the second signal from the center frequency of the second signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gilden et al (US Patent No. 4,868,894) is cited to show system for transmitting microwave signals via an optical link.

Fuse (US Patent No. 6,486,986) is cited to show system for optically transmitting frequency-division-multiplexed signal and transmitter therefor.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dalzid Singh/
Primary Examiner
Art Unit 2613